CLAIMS

What Is Claimed Is:

1. A method of providing a universal data analysis, measurement and control system for a variety of types of input data components comprising data sets, the method being implemented in a programmed computer comprising a processor, at least one data storage system, at least one input device and at least one output device, the method comprising the steps of:

    generating, by means of the programmed computer, at least one hierarchical index linked to each of the input data components, said at least one index being generated under pre-defined formatting rules and further including a description of each of the data sets;

    storing said at least one index in at least one of the data storage systems;

    instantiating said at least one index by means of the programmed computer;

    storing said instantiation of said at least one index in at least one of the data storage systems;

    comparing at least one of the data sets linked to at least one of said instantiated indexes to at least another of the data sets linked to at least another of said instantiated indexes by means of the programmed computer; and

    applying the output of said comparing to at least one of the output devices.

2. The method of Claim 1, wherein said data set descriptions are in standardized and consistent forms that further comprise primary relationships between the data sets of a common input data component.

3. The method of Claim 2, wherein each said data set description further comprises:

at least one quantified description of each data set; and

at least one name of each data set.

4. The method of Claim 3, wherein said index is expandable to link to later-added input data components.

5. The method of Claim 4, wherein said instantiating periodicity is responsive to elapsed time since the last instantiation.

6. The method of Claim 5, wherein said instantiating periodicity is further responsive to changes in the input data components.

7. The method of Claim 6, wherein said instantiating periodicity is further responsive to request through at least one of the input devices.

8. The method of Claim 5, wherein said comparing further comprises a second comparing, comprising comparing at least one of said data set descriptions of at least one of said instantiated indexes to at least one of said data set descriptions of at least another of said instantiated indexes.

9. The method of Claim 8, wherein said comparing is further organized by said primary relationships.

10. The method of Claim 9, further comprising:

a defining step, before said comparing step, said defining step comprising defining at least one secondary relationship by input to the programmed computer through at least one of the input devices, said at least one secondary relationship comprising a relationship between the data sets of different input data components.

11.   The method of Claim 10, wherein new secondary relationships are definable at any time.

12.   The method of Claim 11, wherein said comparing and said second comparing are further organized by said secondary relationships.

13.   The method of Claim 12, wherein said comparing and said second comparing further comprise a calibrating step comprising calibrating each of said compared data sets to its corresponding data set and further calibrating each of said second compared data set descriptions to its corresponding second compared data set description.

14.   The method of Claim 12, further comprising a second applying step after said generating step, comprising applying said at least one hierarchical index to at least one of the output devices.

15.   A method of providing a standardized hierarchical index to a variety of types of input data components comprising data sets, the method being implemented in a programmed computer comprising a processor, at least one data storage system, at least one input device and at least one output device, the method comprising the steps of:

generating, by means of the programmed computer, at least one hierarchical index linked to each of the input data components, said at least one index generated under pre-defined format rules;

storing said at least one index in at least one of the data storage systems;

instantiating said at least one index by means of the programmed computer; and

storing said instantiation of said at least one index in at least one of the data storage systems.

16.   The method of Claim 15, wherein said data set descriptions are in standardized and consistent forms that further comprise secondary relationships between the data sets of a common input data component.

17.   The method of Claim 16, wherein each said data set description further comprises:

at least one quantified description of each data set; and

at least one name of each data set.

18.   The method of Claim 17, wherein said index is expandable to link to later-added input data components.

19.   The method of Claim 18, wherein said instantiating periodicity is responsive to changes in the input data components.

20.   The method of Claim 19, wherein said instantiating periodicity is further responsive to elapsed time since the last instantiation.